



**PROCESS GAUGES**

# XR-Series All-welded Process Gauge and Diaphragm Seal

**DESCRIPTION**

The XR-Series all welded system provides users with a leak-proof, tamper-resistant gauge and seal solution that combines the proven durability and performance of our 4-1/2" Model 1981 SOLFRUNT® Process Gauge with our high quality M&G brand Diaphragm Seals.

- Best solution for operator safety
- Leak-proof – all joints are welded
- Seamless bourdon tube gauge standard
- Compact size
- Tamper resistant – can't remove gauge
- 4:1 safety ratio

AMETEK USG's XR models are now available in two versions. Our new Finned Top version has been upgraded to include cooling fins on the body of the seal to improve its cooling features and an optional flushing port. The first generation is still available for customers preferring that design, or applications requiring exotic metals, such as MONEL 400, HASTELLOY, or Tantalum.

The XR-Series offers customers a leak-proof, tamper-proof, lower cost alternative to an individual gauge and diaphragm seal. The XR-Series increases worker safety by reducing potential leaks in your process by welding the gauge to the seal and including our Model 1981 process gauge with a seamless bourdon tube. Many companies specify seamless tubing throughout their plants for their process lines, yet they use gauges that have welded tubing. The Model 1981 gauges starts with seamless tubing for our bourdon tubes, which provide a seamless solution throughout your process.

The XR-81 is compliant to NACE MR-01-03 and MR-0175 requirements. The designed operating pressure is 3000 psi at 100°F and has a maximum static pressure rating of 5000 psi. The standard XR diaphragm seal has a 4:1 safety ratio and is available in 316L SST, Hastelloy C, MONEL bodies and 316L SST, HASTELLOY, MONEL and Tantalum diaphragms. Please reference the following pages for specifics.

**APPLICATIONS**

- Refineries
- Petrochemical manufacturing
- Oilfield equipment
- Chemical manufacturing

**SPECIFICATIONS**

**GAUGE:** Model 1981 with 316L SST socket and 316L SST seamless Bourdon tube, or Model 1986 with MONEL socket and MONEL seamless Bourdon tube

**RANGES:** From 0 to 15 psi to 0 to 3000 psi

**PROCESS CONNECTION:** 1/2 NPT male connection standard, other connections available upon request

**SEAL WETTED PARTS:** 316L stainless steel, MONEL, HASTELLOY C bodies; 316L stainless steel, MONEL, HASTELLOY C and Tantalum diaphragms; other wetted materials may be available upon request

**SEAL FILL FLUID:** DC 200 silicone standard; other fills available upon request

**OPTIONS:** Orifice restrictors on gauge; flush port on seal, Sta-Kool™ cooling element, shatter-resistant window on gauge, and capillaries



**XR-81 SOLFRUNT® Process Gauge**  
**with Welded M&G Finned Top Diaphragm Seal**



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# XR-Series All-welded Process Gauge and Diaphragm Seal

## Model XR-81 SOLFRUNT® 4-1/2" Spec No. Selection Chart

Model:	XR-81 New Design with Finned Top All-Welded Seals			
Connection Size:	1/2" M NPT	1/2" M NPT	1/2" M NPT	1/2" M NPT
Dial Scale <sup>2</sup> :	PSI	PSI	PSI	PSI
Case Type:	Dry	E-Z Fill	E-Z Fill	E-Z Fill
Gauge Model:	1981	1981	1981	1981
Seal Upper Material:	316L SST	316L SST	316L SST	316L SST
Diaphragm Material:	316L SST	316L SST	316L SST	316L SST
Seal Lower Material:	316L SST	316L SST	316L SST	316L SST
System Fill Type <sup>3</sup> :	DC 200	DC 200	DC 200	DC 200
Gauge Case Fill Fluid:	N/A	Dry	Glycerin	DC 200
Pressure Range:	Spec No.	Spec No.	Spec No.	Spec No.
0 - 15 PSI	XR1015P27LLRL--	XRL015P27LLRL--	XRL015P27LLRLK-	XRL015P27LLRLL-
0 - 30 PSI	XR1030P27LLRL--	XRL030P27LLRL--	XRL030P27LLRLK-	XRL030P27LLRLL-
0 - 60 PSI	XR1060P27LLRL--	XRL060P27LLRL--	XRL060P27LLRLK-	XRL060P27LLRLL-
0 - 100 PSI	XR1100P27LLRL--	XRL100P27LLRL--	XRL100P27LLRLK-	XRL100P27LLRLL-
0 - 160 PSI	XR1160P27LLRL--	XRL160P27LLRL--	XRL160P27LLRLK-	XRL160P27LLRLL-
0 - 200 PSI	XR1200P27LLRL--	XRL200P27LLRL--	XRL200P27LLRLK-	XRL200P27LLRLL-
0 - 300 PSI	XR1300P27LLRL--	XRL300P27LLRL--	XRL300P27LLRLK-	XRL300P27LLRLL-
0 - 400 PSI	XR1400P27LLRL--	XRL400P27LLRL--	XRL400P27LLRLK-	XRL400P27LLRLL-
0 - 600 PSI	XR1600P27LLRL--	XRL600P27LLRL--	XRL600P27LLRLK-	XRL600P27LLRLL-
0 - 800 PSI	XR1800P27LLRL--	XRL800P27LLRL--	XRL800P27LLRLK-	XRL800P27LLRLL-
0 - 1000 PSI	XR110CP27LLRL--	XRL10CP27LLRL--	XRL10CP27LLRLK-	XRL10CP27LLRLL-
0 - 1500 PSI	XR115CP27LLRL--	XRL15CP27LLRL--	XRL15CP27LLRLK-	XRL15CP27LLRLL-
0 - 2000 PSI	XR120CP27LLRL--	XRL20CP27LLRL--	XRL20CP27LLRLK-	XRL20CP27LLRLL-
0 - 2300 PSI	XR123CP27LLRL--	XRL23CP27LLRL--	XRL23CP27LLRLK-	XRL23CP27LLRLL-
0 - 3000 PSI	XR130CP27LLRL--	XRL30CP27LLRL--	XRL30CP27LLRLK-	XRL30CP27LLRLL-

For Flushing Connection the 9th Character is changed to a 9, please see below.

Model:	XR-81 New Design with Fin Topped All-Welded Seals and Flushing Connection			
Connection Size:	1/2" M NPT	1/2" M NPT	1/2" M NPT	1/2" M NPT
Dial Scale <sup>2</sup> :	PSI	PSI	PSI	PSI
Case Type:	Dry	EZ-Fill	E-Z Fill	E-Z Fill
Gauge Model:	1981	1981	1981	1981
Seal Upper Material:	316L SST	316L SST	316L SST	316L SST
Diaphragm Material:	316L SST	316L SST	316L SST	316L SST
Seal Lower Material:	316L SST	316L SST	316L SST	316L SST
System Fill Type <sup>3</sup> :	DC 200	DC 200	DC 200	DC 200
Gauge Case Fill Fluid:	N/A	Dry	Glycerin	DC 200
Pressure Range:	Spec No.	Spec No.	Spec No.	Spec No.
0 - 15 PSI	XR1015P29LLRL--	XRL015P29LLRL--	XRL015P29LLRLK-	XRL015P29LLRLL-
0 - 30 PSI	XR1030P29LLRL--	XRL030P29LLRL--	XRL030P29LLRLK-	XRL030P29LLRLL-
0 - 60 PSI	XR1060P29LLRL--	XRL060P29LLRL--	XRL060P29LLRLK-	XRL060P29LLRLL-
0 - 100 PSI	XR1100P29LLRL--	XRL100P29LLRL--	XRL100P29LLRLK-	XRL100P29LLRLL-
0 - 160 PSI	XR1160P29LLRL--	XRL160P29LLRL--	XRL160P29LLRLK-	XRL160P29LLRLL-
0 - 200 PSI	XR1200P29LLRL--	XRL200P29LLRL--	XRL200P29LLRLK-	XRL200P29LLRLL-
0 - 300 PSI	XR1300P29LLRL--	XRL300P29LLRL--	XRL300P29LLRLK-	XRL300P29LLRLL-
0 - 400 PSI	XR1400P29LLRL--	XRL400P29LLRL--	XRL400P29LLRLK-	XRL400P29LLRLL-
0 - 600 PSI	XR1600P29LLRL--	XRL600P29LLRL--	XRL600P29LLRLK-	XRL600P29LLRLL-
0 - 800 PSI	XR1800P29LLRL--	XRL800P29LLRL--	XRL800P29LLRLK-	XRL800P29LLRLL-
0 - 1000 PSI	XR110CP29LLRL--	XRL10CP29LLRL--	XRL10CP29LLRLK-	XRL10CP29LLRLL-
0 - 1500 PSI	XR115CP29LLRL--	XRL15CP29LLRL--	XRL15CP29LLRLK-	XRL15CP29LLRLL-
0 - 2000 PSI	XR120CP29LLRL--	XRL20CP29LLRL--	XRL20CP29LLRLK-	XRL20CP29LLRLL-
0 - 2300 PSI	XR123CP29LLRL--	XRL23CP29LLRL--	XRL23CP29LLRLK-	XRL23CP29LLRLL-
0 - 3000 PSI	XR130CP29LLRL--	XRL30CP29LLRL--	XRL30CP29LLRLK-	XRL30CP29LLRLL-

<sup>2</sup> Contact USG Sales for dual scale dials and single scale metric dials.

<sup>3</sup> For factory case liquid filling, substitute LG for Glycerin and LS for Silicone for LX suffix. Contact USG Sales for other case or system fill options.

Diaphragm seal filled with silicon standard. Other fill fluids, such as Halocarbon also available. Please contact Customer Service for more information.



**PROCESS GAUGES**

# XR-Series All-welded Process Gauge and Diaphragm Seal

Model XR-86 SOLFRUNT® 4-1/2" Spec No. Selection Chart		
Model:	XR-86 1st Generation All-Welded Seals	
Connection Size:	1/2" M NPT	1/2" M NPT
Dial Scale <sup>2</sup> :	PSI	PSI
Case Type:	E-Z Fill	E-Z Fill
Gauge Model:	1986	1986
Seal Upper Material:	316L SST	316L SST
Diaphragm Material:	MONEL	MONEL
Seal Lower Material:	MONEL	MONEL
System Fill Type <sup>2</sup> :	DC 200	DC 200
Case Fill Fluid Type <sup>3</sup> :	Dry	See Note 3 Below
Pressure Range:	Spec No.	Spec No.
0 - 15 PSI	170066KSL	170066KSLX
0 - 30 PSI	170067KSL	170067KSLX
0 - 60 PSI	170068KSL	170068KSLX
0 - 100 PSI	170069KSL	170069KSLX
0 - 160 PSI	170070KSL	170070KSLX
0 - 200 PSI	170071KSL	170071KSLX
0 - 300 PSI	170072KSL	170072KSLX
0 - 400 PSI	170073KSL	170073KSLX
0 - 600 PSI	170074KSL	170074KSLX
0 - 1000 PSI	170075KSL	170075KSLX
0 - 1500 PSI	170540KSL	170540KSLX



**XR-86 SOLFRUNT®**  
**All Monel Process Gauge**  
**with Welded M&G**  
**1st Generation Monel**  
**Diaphragm Seal**

<sup>2</sup> Contact USG Sales for dual scale dials and single scale metric dials.

<sup>3</sup> For factory case liquid filling, substitute LG for Glycerin and LS for Silicone for LX suffix. Contact USG Sales for other case or system fill options.

Diaphragm seal filled with silicon standard. Other fill fluids, such as Halocarbon also available. Please contact Customer Service for more information.

**Other XR-Series Products Include:**

XR-656 Open Front 4" All SST Process Gauge and XR Diaphragm Seal, and XR-659 Solid Front 4" All SST Process Gauge and XR Diaphragm Seal.

Additional options include a shatter-resistant window on gauge, restrictor on gauge socket, flush port on seal, Sta-Kool™ cooling element and capillaries.



**XR-659**



**XR-656**



**XR-656**  
**with 1" NPT Process**  
**Connection for Ethanol**  
**Applications**

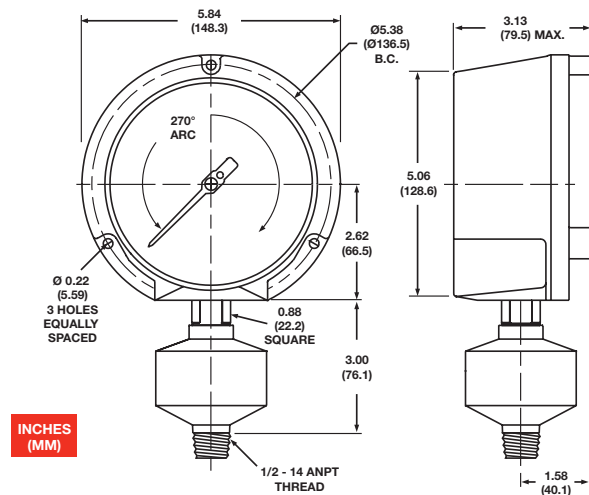
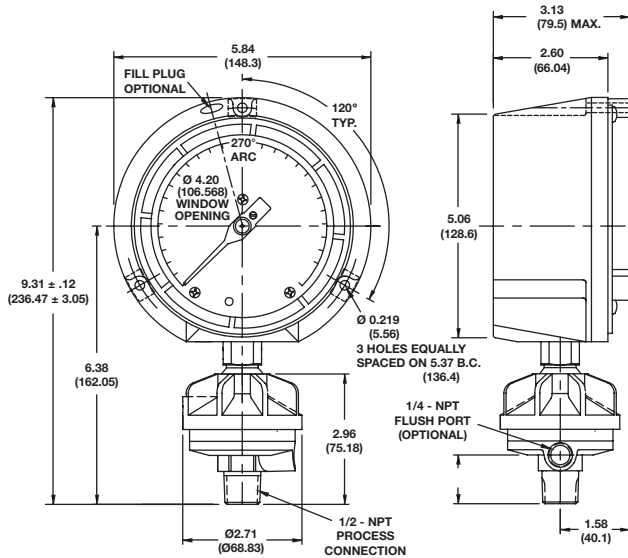


**PROCESS GAUGES**

# XR-Series All-welded Process Gauge and Diaphragm Seal

**Finned Top Design (316L SST Only)**

**First Generation (Monel, Hastelloy with Monel, Hastelloy or Tantalum Diaphragm)**



## XR-Series Canadian Registration (CRN)

Province	Number	Province	Number
Alberta	0F8241.52ADD1	Nunavet	0F8241.5NADD1
British Columbia	0F8241.51ADD1	Ontario	0F8241.5ADD1
Manitoba	0F8241.56ADD1	Prince Edward Island	0F8241.59ADD1
New Brunswick	0F8241.57ADD1	Quebec	0F8241.56ADD1
Newfoundland/Labrador	0F8241.50ADD1	Saskatchewan	0F8241.56ADD1
Northeast Territories	0F8241.5TADD1	Yukon	0F8241.5YADD1
Nova Scotia	0F8241.58ADD1		